

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave.St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003743**Date Inspected:** 03-Aug-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Jeff Chen**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower/OBG**Summary of Items Observed:**

On this date, Caltrans Office of Structure Materials (OSM) Quality Assurance Inspector (QA) Raymond Lara was present at jobsite in Zhenhua Port Machinery Company facility on Changxing Island, China for the purpose of observing and monitoring the fabrication of the Tower and OBG.

**Bay 1**

The Quality Assurance Inspector observed ZPMC utilizing a milling machine in the beveling process on longitudinal stiffener P402.

**Skin Plate E South Tower**

The Quality Assurance Inspector observed ZPMC personnel in process of performing fit operations on longitudinal stiffener plates to skin plate E South Tower Assembly.

The Quality Assurance Inspector observed ZPMC Caltrans approved welders 066418 and 087993, utilizing the shielded metal arc welding process (SMAW). Welding tack welds joining longitudinal stiffeners to skin plate E South Tower Assembly. The Quality Assurance Inspector observed ZPMC Quality Control Personnel record parameters and verify preheat temperatures. The welding parameters observed by the Quality Assurance Inspector appeared to be within welding procedure specification WPS-B-P-2212-TC-U5B.

**Longitudinal Stiffener**

The Quality Assurance Inspector observed ZPMC Caltrans approved welder 092917, utilizing the submerged arc welding (SAW) process on a complete joint penetration in the flat position on longitudinal stiffener weld number

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SSDI-SA-179 B/E. The Quality Assurance Inspector observed ZPMC Quality Control Personnel record parameters and verify preheat temperatures. The welding parameters observed by the Quality Assurance Inspector appeared to be within welding procedure specification WPS-B-T-2221-B-U3-S.

### Skin Plate A South Tower

The Quality Assurance Inspector observed ZPMC Caltrans approved welders 040261 and 066733, utilizing the flux core arc welding (FCAW) process on a complete joint penetration joint joining longitudinal stiffener weld number SSDI-SA15 A/F 56 to skin plate A South Tower Assembly. The Quality Assurance Inspector observed ZPMC Quality Control Personnel record parameters and verify preheat temperatures. The welding parameters observed by the Quality Assurance Inspector appeared to be within welding procedure specification WPS-B-T-2332-TG-P5-T-1.

### Bay 2

The Quality Assurance Inspector observed ZPMC utilizing a milling machine in the beveling process on longitudinal stiffener P584.

The Quality Assurance Inspector observed ZPMC personnel perform heat straightening operations on skin plate D East Tower Assembly, P1287 and P1285.

The Quality Assurance Inspector observed ZPMC personnel perform ultrasonic weld testing on skin plate C East Tower Assembly.

The Quality Assurance Inspector observed ZPMC perform thermal cutting operations diaphragm plate SA126-1A elevation 13 meters.

### Skin Plate A East Tower

The Quality Assurance Inspector observed ZPMC Caltrans approved welders 049220, 066424, 053316 and 068483, utilizing the flux core arc welding (FCAW) process on a complete joint penetration joint joining longitudinal stiffener weld number SSDI-SA107 D/J to skin plate A East Tower Assembly. The Quality Assurance Inspector observed ZPMC Quality Control Personnel record parameters and verify preheat temperatures. The welding parameters observed by the Quality Assurance Inspector appeared to be within welding procedure specification WPS-B-T-2332-TG-P5-T-1.

The Quality Assurance Inspector observed ZPMC personnel are in process of performing fit up operations on longitudinal stiffeners to skin plates E and B East Tower Assemblies.

### Ultrasonic Testing

The Quality Assurance Inspector performed 10% random ultrasonic testing verification on longitudinal stiffener splice welds. The Quality Assurance Inspector performed the testing on the following welds; ESDI-SA294 A/G 4B, ESDI-SA294 G/G-578, ESDI-SA294 G-58B, ESDI-SA77 A/E-62B, ESDI-SA-77 A/E-33B, ESDI-SA77 D/E-20B, and ESDI-SA77 D/E-21B. See Caltrans report TL-6027 Ultrasonic Testing Report, dated August 3, 2008 for additional information.

### Bay 3

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The Quality Assurance Inspector observed ZPMC grinding and performing flux core arc welding (FCAW) on visual weld repairs on Orthotropic Box Girders (OBG) DP-325-002, DP-325-001, DP-217-001 and DP-243-001.

The Quality Assurance Inspector performed a random final visual observation on Orthotropic Box Girders (OBG) DP-108-002, DP-243-001, DP-189-001, DP-434-002 and DP-218-001. The items observed by the Quality Assurance Inspector appear to meet contract requirements.



### Summary of Conversations:

No relevant conversations on this date.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (707) 649-5453, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lara,Raymond	Quality Assurance Inspector
<b>Reviewed By:</b>	Lanz,Joe	QA Reviewer

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